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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/692,476 | 10/24/2003 | Dale K. Hitt | DSI-P101 | 1889 |
| 32566 | 7590 | 10/06/2006 | EXAMINER | |
| PATENT LAW GROUP LLP 2635 NORTH FIRST STREET SUITE 223 SAN JOSE, CA 95134 | | | DANG, HUNG Q | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2612 | |

DATE MAILED: 10/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding..

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| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/692,476 | HITT, DALE K. | |
| | Examiner | Art Unit | |
| | Hung Q. Dang | 2635 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) ✓ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-6, 9, 11, 16 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Hirsch U.S. Patent 4,567,563.

Regarding claim 1, Hirsch teaches a method for providing environmental monitoring and control, the method comprising:

providing a plurality of wireless nodes, the plurality of wireless nodes (Figures 1-3; units 17 and 12 are all wireless nodes) includes a plurality of sensor nodes (units 17 are sensor nodes) and a plurality of actuator nodes (remote computers are actuator nodes), each wireless node including a wireless transceiver (units 51 and 52 form a transceiver), a processor (Figure 4, unit 40) and one of a sensor device (Figure 3, units 27a) or an actuator device (Figure 1, units 12 are computers, which act as actuating devices); sending a message from a first wireless node to a second wireless node through wireless communication; and processing the message at the second wireless node, wherein the message comprises sensor data or a control command operative to control the sensor device or the actuator device in the second wireless node (column 4, lines 54-66).

Regarding claim 3, the second wireless node disclosed by Hirsch also comprises an actuator node and the message comprises a control command for controlling the actuator device, the method further comprises controlling the actuator device in response to the message (column 4, lines 54-66).

Regarding claims 9 and 11, any node that can transmit a signal to trigger an action is an actuator node. In this case, Hirsch does teach the first wireless node and the second wireless node comprising a first and a second actuator node, the first wireless node sending the message to the second wireless node for coordinating a sequence for actuating the respective actuator device (column 4, lines 54-66).

Regarding claims 2, 4, 16 and 17, Hirsch also teaches collecting sensor data at the second wireless node; and transmitting the sensor data to a destination node in accordance with the message (column 4, lines 54-66).

Regarding claims 5 and 6, Hirsch also teaches sending the message from a first wireless node (Figure 2, unit 17 is interpreted to be a first wireless node, in this case) to a third wireless node (Figure 1, unit 12 is interpreted to be a third wireless node); and sending the message from the third wireless node to the second wireless node (Figure 1, unit 11 is interpreted to be the second wireless node), wherein the third wireless node comprises a sensor node or an actuator node (unit 12 is indeed an actuator node).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 7-8, 10 and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirsch U.S. Patent 4,567,563.

Regarding claims 7 and 8, Hirsch teaches the method of claim 1, wherein the first wireless node comprises a sensor node (Figure 2, unit 17) and the second wireless node comprises an actuator node (Figure 1, unit 12), and wherein sending a message from a first wireless node to a second wireless node through wireless communication comprising collecting sensor data at the sensor node and sending sensed data to a second wireless node (columns 3-4).

However, Hirsch does not teach processing the sensor data to generate a control command; **and sending a message containing the control command to the second wireless node** for controlling the actuator device of the second wireless node.

Hirsch teaches receiving the sensor data and processing the sensor data to generate a control command **at the second node** (unit 12) for controlling the actuator device of the second node.

However, one skilled in the art would recognize that receiving/processing sensor data and generate a control command, **at the first node**, to be transmitted to a second node would be functionally and purposely equivalent to receiving sensor data **at the second node** and then generate a control command at the second node.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to alternatively provide generating a command based on the sensor data to be transmitted from the first node to the second node of the system disclosed by Hirsch, as explained above, for controlling the actuator device of the second node.

Regarding claim 10, Hirsch teaches transmitting sensed-data messages from the plurality of sensor nodes to one or more wireless nodes, **except** said transmission is on a **periodic** time basis. Examiner takes official notice that such periodic data transmission has been known and utilized by many irrigation systems to consistently and periodically monitor the moisture level in soil. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to provide **periodic** data transmission to the irrigation method disclosed by Hirsch so that moisture level in soil can be periodically monitored.

Regarding claims 12-14, the claimed subject matters of claims 12-14 are merely the conventional power saving (turning off) and synchronous powering on of passive/solar transponders so that unnecessary use of power can be avoided and (synchronous powering on) to make sure all transponders/nodes are ON to be ready for transmitting/receiving data.

Regarding claim 15, examiner takes official notice that transmitting/receiving acknowledge message in communication systems has been commonly known and applied so that the transmitter can be affirmed that the transmitted message has been received. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to provide sending an acknowledgement message from the second

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wireless node to the first wireless node of the system disclosed by Hirsch, for the reasons explained above.

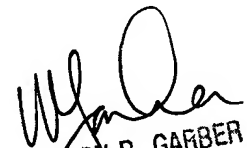
Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Q. Dang whose telephone number is (571) 272-3069. The examiner can normally be reached on 9:30AM-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on (571) 272-7308. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hung Q. Dang
9/29/2006
H.D.



WENDY R. GARBER
PATENT EXAMINER
EBC